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MUHLENBERGIA CLEEFI SP. NOV., A NEW GRASS FROM THE HIGH ANDES OF COLOMBIA

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Resumen
Se describe una nueva especie del género *Muhlenbergia* (Gramineae)

Summary
A new species of *Muhlenbergia* (Gramineae) is described

Muhlenbergia cleefi Lægaard **sp. nov.**

Species *Muhlenbergiae ligulari* (Hackel) Hitchcock affinis, a qua differt panicula angustissima, pauciflora, spiculis (1-)2-3 constanti; spiculae angustae, ca. 3 mm longae, atropurpureae; lemma glabrum, nitidum, acuminatum mucrone brevi, uncinato.

TYPE: Colombia, Boyaca: Sierra Nevada del Cocuy, Alto Valle Lagunillas, alt.: 4060 m, Leg.: *Antoine M. Cleef & P.A.F. Florschütz 5578*, 26.09.1972. (Herb. COL). With label note: Páramo pantanoso al Sur de la Laguna Cuadrada. Cauce relleno con *Muhlenbergia fastigiata* [= *M. cleefi* - see discussion] predominante. Graminea pequeña muy abundante.

Plants 1-2 cm high, forming dense mat in swamp, underground internodes pale, glabrous, terete, c. 0.5 mm diam; upper internodes shorter than sheaths, terminal internode terete, finely furrowed, densely papillose, c. 0.3 mm diam; nodes furrowed; sheaths slightly inflated, furrowed, glabrous to finely papillose, in upper part with broad, finely papillose, hyaline margins that are prolonged and united with ligule; leaf-blades 5-6(-10) mm long, c. 1 mm broad, flat, erect to ascending, abaxial side furrowed, papillose-opaque, adaxial side deeply furrowed, papillose and with rows of fine hairs along the 9-11 nerves, apex naviculate; ligule c. 1.5 mm, rounded, slightly errose, central part glossy, laterally papillose-opaque. Inflorescence very small, narrowly erect, with (1)2-3 spikelets, branches short, densely papillose; spikelets tenuiforme, c. 3 mm, dark purplish, disarticulating above glumes, callus broadly rounded; glumes unequal, first glume c. 1 mm, broadly ovate, second glume 1.2-1.3 mm, oblong-ovate, both 1-nerved with rounded back, slightly papillose-opaque, apex acute; both lemma and palea dark purplish, glabrous, shining; lemma c. 3 mm, lanceolate, 3-nerved, nerves distinct and slightly keeled in lower half, upwards with rounded back, apically with a fine tip that is recurved to a distinct hook, the reversed tip 0.2-0.3 mm; palea c. 2.5 mm, 2-nerved, with distinct, pale keels in lower half; lodicules very small, c. 0.1 mm, broadly cuneiforme, papillose; stamens 3, filaments short, anthers 1.3-1.5 mm, dark purplish; achene 2-2.5 x 0.5 mm, terete, glabrous, light brown, embryo app. half of total length.

Discussion

Muhlenbergia cleefi is close to *M. ligularis*. The latter species is widely distributed in the Andes from Venezuela and Colombia to Bolivia (HITCHCOCK, 1927, BRAKO & ZARUCCHI, 1993, and own observations). It is a very variable species, apparently it varies genetically and it is also ecologically very plastic. The most distinctive characters of *M. cleefi* are the very small and slender panicles, in the type material with only 2-3, in other specimens sometimes with up to 5 spikelets in each, always with only one spikelet on each of the erect branches, and the narrow, shining, usually purple spikelets with the lemma

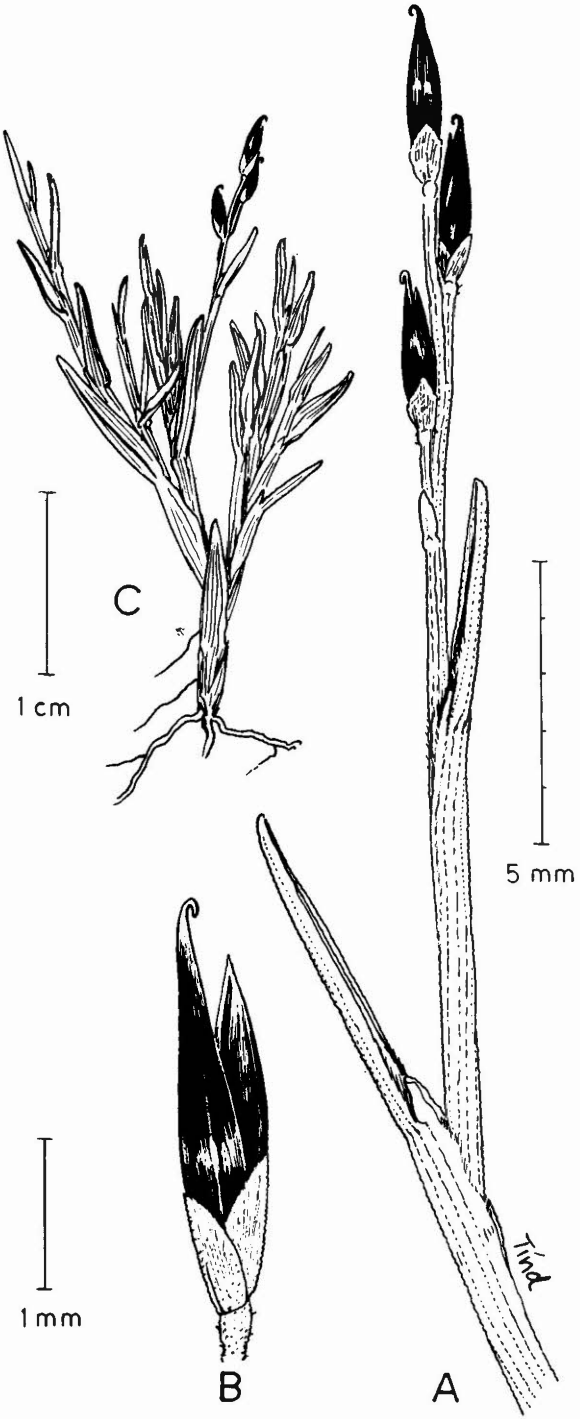

Figura 1. *Muhlenbergia cleefi* Lægaard. Drawings from type specimen, *Cleef & Florschütz 5578*. **A**: Culm with panicle - **B**: Spikelet - **C**: Habit.

terminating in an arista that is recurved and forming a small hook. In a few of the specimens studied, the arista is not distinctly recurved but only somewhat flexuous. Leaf-blades are always very short, rarely more than 10 mm. The whole plant, except the lemma, is papillose.

The species is distributed in the high páramos of Cordillera Oriental of Colombia, mostly from 3500-4200 m a.s.l. according to label information.

The type specimen was previously identified as *M. fastigiata* and it is the character species in the type relevé of the associacion *Muhlenbergietum fastigiatae* Cleef, described in CLEEF, 1981, pag. 187. This associacion occurs in humid and wet meadows, *M. cleefii* is often growing in deep layers of mosses, especially with *Breutelia chrycea*, *B. allionii*, and *Sphagnum cuspidatum*.

ETYMOLOGY: The species is named for ANTOINE MARIE CLEEF for his outstanding work on the high páramo vegetation of Colombia. Dr. Cleef also collected most of the specimens known of the new species.

SPECIMENS SEEN: Alonso et al. 6311, Distr. esp. de Bogota, Páramo de Chisacá, 3400-3500 m, 17.04.1986 (COL) - *Alonso et al. 6676*, Cundinamarca: Páramo de Chisacá, 3500-3600 m, 01.09.1986 (COL) - *Barclay & Juajibioy 6155*, Cundinamarca: Páramo de Chisacá, 3900 m, 09-11.11.1958 (COL) - *Barclay & Juajibioy 7464*, Boyacá: Sierra Nevada del Cocuy; Alto Ritacuva, ca 4100 m, 11-29.04.1959 (COL) - *Dias P. et al. 1750*, Risaralda: Mun. de Pereira, alred. de la Laguna Otún, 4000-4300 m, 03.02.1980 (COL, L) - *Cleef 219*, Cundinamarca: Páramo de Sumapaz, Chicacá, 3650 m, 11.12.1971 (COL) - *Cleef 1810*, Boyacá: Pàramo al NW Belén, cabeceras Quebrada Minas, 3870 m, 25.02.1972 (COL) - *Cleef & Jaramillo-M. 4142*, Cundinamarca: Represa del Neusa y alrededores, Orilla NW, 3605 m, 26.05.1972 (COL) - *Cleef 4287*, Boyacá: Páramo de Pisva, carretera Socha-La Punta km 72, 3535 m, 09.06.1972 (COL) - *Cleef & Florschütz 5578*, Boyacá: Sierra Nevada del Cocuy, Alto Valle Lagunillas, 4060 m, 26.09.1972, TYPE (COL) - *Cleef 6493*, Cundinamarca: Páramo entre Cogua y San Cayetano, Lag. Verde y alred., 3670 m, 16.11.1972 (COL) - *Cleef 7319*, Boyacá: Páramo de la Rusia, Peña Blanca, 3720 m, 16.12.1972 (COL) - *Cleef 8770*, Boyacá: Sierra Nevada del Cocuy, Alto Valle Lagunillas, 3955 m, 04.03.1973 (COL) - *Cleef 9994*, Boyacá: Sierra Nevada del Cocuy, Alto de la Cueva, 4030 m, 05.06.1972 (COL) - *Koops 244*, Risaralda: P.N.N. de los Nevados, El Mosquito, 3950 m, 14.02.1992 (AAU, AMD, COL) - *Rangel & Sturm 1538A*, Boyacá: Sierra Nevada del Cocuy, Mun. del Güicán, Alto Valle Lagunillas, 3900-4100 m, 20.09.1978 (COL) - *Smith & Idrobo 1374 bis*, Cundinamarca: "Alto del Páramo", ca 15 km NW of Zipaquirá, 3200 m, 06.08.1950 (COL) - *Soejarto 412*, Cundinamarca: Mun. Usme, Páramo de Chisacá, ca 3600 m, 15.08.1963 (COL) - *Wood 4146*, Boyacá: Sierra Nevada del Cocuy. Above Güicán, 3700-3800, 18.12.1983 (COL).

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Literature

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HITCHCOCK, A.S., 1927. The Grasses of Ecuador, Peru, and Bolivia. *Contr. US Nat. Mus.* **24**(8)